

**DE 197 54 269 A1**Method of simplifying access to information transmitted via the Internet

The<sup>8</sup> invention relates to apparatus for simplifying access to information transmitted via the Internet, with a television receiver and an Internet-capable additional unit which is integrated into the housing of the television receiver or is placed alongside the television receiver and which communicates with the television receiver.

During the International Radio Fair 1997 in Berlin the Applicants have already exhibited an Internet-capable device known as a Webbox which is provided as an add-on device to a television receiver. This Webbox has a control keyboard by means of which data corresponding to Internet addresses can be input. After the connection to the Internet has been made and the web page specified by the input Internet address has been found, this page is displayed on the screen of the television receiver.

Starting from this prior art, the object of the invention is to make further developments to apparatus with the features set out in the preamble to Claim 1 in such a way that access to the Internet is simplified for the user.

In apparatus with the features set out in the preamble to Claim 1 this object is achieved by the features set out in the characterising portion of Claim 1. Advantageous embodiments and variants of the invention are apparent from the dependent claims.

The advantages of the invention reside in the fact that the user no longer has to input the individual alphanumeric characters of Internet addresses manually by means of a control unit since the data corresponding to the Internet addresses are separated out from a transmitted television signal and stored in a memory. The stored data which correspond to one or more Internet addresses are then available for subsequent connection to the Internet.

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<sup>8</sup> Start of column 1 of German text

By means of the features set out in Claim 2 Internet address data which are transmitted in the visible picture area of the television signal can be separated out of the transmitted television signals.

The features of Claims 3 and 4 allow separation out of Internet address data which are transmitted in the blanking intervals of the television signal.

By means of the features of Claim 5 the user obtains a clear overview of Internet addresses which are already stored.

The advantages which can be achieved with the features of Claim 6 reside in the fact that the user has the possibility of making a decision as to the time at which Internet address data are stored. As a result he is able in particular not to store individual Internet address data which are transmitted in the television signal if the associated subject areas do not interest him.

The advantages of the features of Claim 7 reside in the fact that the user can select an Internet address directly from the table displayed on the screen, so that a connection to the Internet can be made.

With the features of Claim 8 it is possible for data corresponding to Internet addresses always to be stored automatically when the tuner of the television receiver is tuned to a desired television channel. In this case such data are of course only stored when checking by the control unit of the apparatus establishes that the<sup>9</sup> Internet address data separated out of the television signal are not already contained in the memory.

Furthermore, this automatic storing of Internet address data can be effected initially in a buffer memory, so that at a desired time the user is able either to reject the Internet address data stored in the buffer memory or to add them to the memory referred to in Claim 1, which is a non-volatile memory.

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<sup>9</sup> Start of column 2 of German text

The features of Claim 9 offer the user the possibility of manual input of further Internet addresses in addition to the Internet addresses derived from the television signal. This takes account of the fact that there are a large number of Internet addresses which are not transmitted together with a television signal.

By means of the features set out in Claim 10 it is possible for the user to sort the Internet addresses contained in the table according to his own wishes and also to delete from the table individual Internet addresses which he no longer requires. This makes the table clearer and more easily comprehensible for the user.

Further characteristics of the invention are apparent from the explanation of an embodiment with reference to the drawing.

The drawing shows components of a television receiver which are essential to an understanding of the invention. These components are a tuner 1, a picture signal processing circuit 2 which may have a picture memory, a switch 3, a screen 4, a microcomputer 5, a control unit 6 which may preferably comprise a remote control transmitter and a remote control receiver, a memory 7 and an Internet-capable additional unit 8. This Internet-capable additional unit 8 can either be integrated into the housing of the television receiver or can be provided as an add-on device to the television receiver which communicates with the television receiver.

The illustrated television receiver operates as follows:

A channel selection command is input by means of the control unit 6. This channel selection command is delivered to the microcomputer 5 which thereupon delivers a control signal to the tuner 1 in response to which the tuner is tuned to the desired television channel. Furthermore, the microcomputer 5 controls the switch 3 in such a way that the switch is brought into a position in which it is passable for the output signal of the picture processing circuit 2. Consequently television signals which are derived from the tuner output and are processed in the picture signal processing circuit 2 are delivered by way of the switch 3 to the screen 4 and displayed there.

These television signals include Internet address data already used at the transmitter end. These Internet address data are transmitted in the active picture interval and consequently - as shown in the drawing - are displayed on the screen together with the television picture which is not shown in the drawing. For example during the ARD television broadcast "Tagesschau" ["News"] the text

<http://www.tagesschau.de>

as Internet address of the news program can be displayed on the screen in addition to the newsreader. This display should enable the user to note this Internet address in order some time later by means of an Internet-capable device to be able to access the news pages transmitted via the Internet.

According to the invention the television signal in which the<sup>10</sup> said Internet addresses are contained is delivered to a decoder for evaluation of the television signal and for separation of the Internet address data out of the television signal. In the illustrated embodiment this decoder is integrated in the microcomputer 5 to which the television signals are delivered by the picture signal processing circuit 2. The microcomputer 5 has text recognition means for evaluation of the signal. An Internet address is recognised for example by the initial letters "http" which with a very high degree of probability are not contained in any other text components of the television signal. If the microcomputer 5 recognises such Internet address data in the television signal then it delivers these data to the memory 7 in order to store them there. This evaluation and storage process is preferably initiated by a control command input by the user by means of the control unit 6. Furthermore, an Internet address can also be recognised by a keyword defined by the user for which a search is carried out in the data stream.

In this way a plurality of Internet address data, all of which are derived from transmitted television signals, can be stored in the memory 7.

As an alternative or in addition to the embodiment described above, Internet address data can also be transmitted in the blanking intervals of the television signal, preferably in the teletext

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<sup>10</sup> Start of column 3 of German text

data stream, and can for example be decoded using a teletext decoder and made available for storage in the memory 7.

Furthermore, the microcomputer 5 is provided in order, in response to a display command input by means of the control unit 6, for the Internet address data stored in the memory 7 to be displayed in the form of a table on the screen 4. The user is then able using the keyboard of the control unit 6 to sort the displayed table and if need be to delete individual Internet address data from the table.

Furthermore, using the cursor control keys of the control unit 6 the user can select a desired Internet address in the table in order to make a connection to the Internet. This selection is recognised by the microcomputer 5 and passes to the control circuit of the Internet-capable additional unit 8. This takes the said Internet address data from the memory 7 and uses them to make a connection to the Internet.

After the user has selected the desired Internet address, the microcomputer 5 then puts the switch 3 into such a position that it is passable for signals coming from the Internet-capable additional unit.

Once the connection to the Internet is made, then the web page specified by the selected address can be displayed on the screen 4 of the television receiver by way of the additional unit 8 and the switch 3.

Thus, to summarise, in the invention Internet addresses are separated out of television signals and are stored. The stored Internet address data can be displayed in the form of a table on the screen of a television receiver. By means of the control unit of the television receiver one of the Internet addresses displayed in the table is selected and confirmed. This Internet address is then used to make a connection automatically to the Internet. Thus for the user this avoids the necessity of having to input Internet addresses laboriously by means of a control keyboard.

Claims<sup>11</sup>

1. Apparatus for simplifying access to information transmitted via the Internet, with a television receiver and an Internet-capable additional unit which is integrated into the housing of the television receiver or is placed alongside the television receiver, characterised in that the apparatus also comprises a decoder, which is provided for decoding of data corresponding to Internet addresses which are transmitted in a television signal, and a memory for storing the decoded data.
2. Apparatus as claimed in Claim 1, characterised in that the decoder has text recognition means for evaluation of data transmitted in the television signal.
3. Apparatus as claimed in Claim 1 or 2, characterised in that the decoder is provided for decoding data transmitted in the blanking intervals of the television signal.
4. Apparatus as claimed in Claim 3, characterised in that the decoder is a teletext decoder.
5. Apparatus as claimed in any one of the preceding claims, characterised in that it has a control unit which addressed the memory in such a way that a table containing the Internet addresses is displayed on the screen of the television receiver.
6. Apparatus as claimed in any one of the preceding claims, characterised in that it has a remote control unit by means of which the storage of data corresponding to an Internet address can be initiated.
7. Apparatus as claimed in any one of Claims 4 or 5, characterised in that it has a remote control unit by means of which an Internet address displayed in the table can be selected in order to make a connection to the Internet.

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8. Apparatus as claimed in any one of the preceding claims, characterised in that after the tuning of the tuner of the television receiver to a television channel the control unit automatically starts the decoder for decoding of the data corresponding to Internet addresses which are transmitted in the television signal and initiates the storage of such data in the memory.
9. Apparatus as claimed in any one of the preceding claims, characterised in that the memory is provided for storage of further Internet address data which can be input by means of the remote control unit of the television receiver or another keyboard.
10. Apparatus as claimed in any one of the preceding claims, characterised in that the remote control unit is provided for deletion of individual Internet addresses from the table and/or for sorting individual Internet addresses in the table.